

ADDENDUM 003**SITE PREPARATION AND MATERIAL REMOVAL****FINAL DESIGN
ENVIRO-CHEM SUPERFUND SITE
ZIONSVILLE, INDIANA**

Prepared For:
**ENVIRONMENTAL CONSERVATION AND
CHEMICAL CORPORATION TRUST**

Prepared By:
AWD TECHNOLOGIES, INC.
INDIANAPOLIS, INDIANA

AWD PROJECT NUMBER 2259

JULY 15, 1993

1. Technical Specifications*:

A. Revised Section: Section 02091

B. New Sections: Not Applicable

2. Air Monitoring Plan*:

A. Revised Pages: Pages 4-2 (Table 4-1) and 4-4 (Addendum-001) are deleted and replaced with revised pages of the same number. A copy of each revised page accompanies this addendum.

* For convenience deletions have been stricken with a line, and additions have been shaded. However, all portions of the pages shall apply whether or not changes have been indicated.

~~Deleted Text~~

Additional Text

Puncture resistance	FTMS 101B/2065	105 lb
Resistance to soil burial elongation at break and yield	ASTM D3083 using ASTM D638 Type IV Dumbbell at 2 ipm	± 10 percent
Dimensional stability (each direction)	ASTM D1204 212 degrees F, 15 minutes 1 hour	± 2 percent
Environmental stress crack resistance	ASTM D1693	0 failures in 1,500 hrs
Low temperature brittleness	ASTM D746 Procedure B	-40 degrees F
Carbon black content	ASTM D1603	2 to 3 percent
Carbon black dispersion rating	ASTM D3015	A-1

- E. Liners shall consist of an HDPE sheet containing a maximum of 3 percent by weight of additives, fillers, or extenders with carbon black for ultraviolet resistance.
- F. The liner material shall be so produced as to be free of holes, blisters, undispersed raw materials, or any sign of contamination of foreign matter. Any such defect shall be repaired using the extrusion or fusion welding technique in accordance with the manufacturer's recommendations.
- G. Geomembrane shall be supplied in prefabricated panels or blankets or in rolls from one manufacturer.
- H. ~~Geomembrane shall meet the following specifications for resistance to soil burial:~~ Fabricated seams and field seams for HDPE geomembranes shall meet the following specifications:

Resistance to Soil Burial. Percent change in original value. (Typical) Tensile Strength at Break and Yield		ASTM D3083 using ASTM D638 Type IV Dumb bell at 2 ipm. % Change	± 10
Elongation at Break and Yield		% Change	± 10
Integrity of Field Seams	ASTM D-4437	Minimum Acceptable Peel Test	
		Extrusion Weld - 70 lb/in Fusion Weld - 98 lb/in	
		Minimum Acceptable Shear Test	
		Extrusion Weld - 126 lb/in Fusion Weld - 126 lb/in	

TABLE 4-1		
APPLIED ACTION LEVELS (AALs) FOR PERIMETER MONITORING DURING SITE PREPARATION AND MATERIAL REMOVAL		
Constituent	Fenceline Concentration	Response
Particulate	0.1 to 0.5 mg/m ³ above background	Notify Engineer, Resident Superintendent, and Site Safety Officer
Particulate	> 0.5 mg/m ³ above background	Stop work; notify Engineer, Resident Superintendent, Site Safety Officer, and consult with Health and Safety Officer. Institute dust control measures

5. Move to a downwind fenceline location and collect 10-minute average sample.
6. Subtract upwind concentration from downwind concentration.
7. Compare result to Table 4-1 AALs and implement responses as needed.

The AALs shown in Table 4-1 will be protective of the state and Federal ambient air quality standards. This is demonstrated by the following hypothetical scenario that assumes the AAL of $500 \mu\text{g}/\text{m}^3$ ~~5,000 micrograms/cubic meter (10 minute average)~~ above background is exceeded at the downwind station. ~~This would correspond to average 1 minute concentrations exceeding background by 500 micrograms/cubic meter.~~ After the 10-minute reading, the technician takes 10 minutes to notify the Engineer, Resident Superintendent, and Site Safety Officer. Finally, operations are halted and dust suppression is initiated after a total of 30 minutes have elapsed. As a result, the measured air concentrations assuming a background concentration of $100 \mu\text{g}/\text{m}^3$, will be as follows:

HYPOTHETICAL MONITORING AND RESPONSE SCENARIO		
Time (Min)	Concentration ($\mu\text{g}/\text{m}^3$)	Action
1 to 10	600	Perimeter downwind monitoring
10 to 20	600	Technician notifies Engineer
20 to 30	600	Operations are halted and dust suppression initiated
31 to end of 24-hour period	Background (assume $100 \mu\text{g}/\text{m}^3$)	Dust suppression maintained for duration of this activity or until wind conditions subside

A 24-hour (1,440-minute) average concentration (assuming background of $100 \mu\text{g}/\text{m}^3$) would be calculated as follows: